IN THE CLAIMS:

1. (currently amended) For use in an integral equation formulation of capacitance, a system for generating a representation of charge distribution for a given capacitive structure, comprising:

a charge variation function generator that creates a multidimensional charge variation function that is independent of a conductive geometry of said structure; and

a conductive geometry generator, associated with said charge variation generator, that creates a <u>representative</u> conductive geometry that is independent of charge variation in said structure, said charge variation function and said <u>representative</u> conductive geometry employable in said integral equation formulation to reduce a complexity thereof.

2. (original) The system as recited in Claim 1 wherein said integral equation formulation is a Fast Distribution Method.

3. (original) The system as recited in Claim 1 wherein said charge variation function is a three-dimensional function.

4. (original) The system as recited in Claim 1 wherein said charge variation function is a smooth function of spatial location.

5. (currently amended) The system as recited in Claim 1 wherein said conductive geometry generator iteratively creates said <u>representative</u> conductive geometry.

6. (original) The system as recited in Claim 1 wherein said charge variation function generator employs a generalized minimal residual-based Krylov method to determine said multidimensional charge variation function.

7. (currently amended) The system as recited in Claim 1 wherein said representative conductive geometry is represented in an octtree.

8. (currently amended) For use in an integral equation formulation of capacitance, a method of generating a representation of charge distribution for a given capacitive structure, comprising:

creating a multidimensional charge variation function that is independent of a conductive geometry of said structure; and

creating a representative conductive geometry that is independent of charge variation in said structure, said charge variation function and said representative conductive geometry employable in said integral equation formulation to reduce a complexity thereof.

9. (original) The method as recited in Claim 8 wherein said integral equation formulation is a Fast Distribution Method.

10. (original) The method as recited in Claim 8 wherein said charge variation function is a three-dimensional function.

11. (original) The method as recited in Claim 8 wherein said charge variation function is a smooth function of spatial location.

12. (currently amended) The method as recited in Claim 8 wherein said creating said <u>representative</u> conductive geometry comprises iteratively creating said <u>representative</u> conductive geometry.

13. (original) The method as recited in Claim 8 wherein said creating said multidimensional charge variation function comprises employing a generalized minimal residual-based Krylov method to determine said multidimensional charge variation function.

14. (currently amended) The method as recited in Claim 8 wherein said <u>representative</u> conductive geometry is represented in an octtree.

15. (currently amended) A system for determining a capacitance of a given integrated circuit, comprising:

a charge variation function generator that creates a multidimensional charge variation function that is independent of a conductive geometry of said integrated circuit;

a conductive geometry generator that creates a <u>representative</u> conductive geometry that is independent of charge variation in said integrated circuit; and

an integral equation formulator, associated with said charge variation generator and conductive geometry generator, that determines said capacitance of said integrated circuit based on said charge variation function and said representative conductive geometry.

16. (original) The system as recited in Claim 15 wherein said integral equation formulator employs a Fast Distribution Method.

17. (original) The system as recited in Claim 15 wherein said charge variation function is a three-dimensional function.

18. (original) The system as recited in Claim 15 wherein said charge variation function is a smooth function of spatial location.

19. (currently amended) The system as recited in Claim 15 wherein said conductive geometry generator iteratively creates said representative conductive geometry.

20. (original) The system as recited in Claim 15 wherein said charge variation function generator employs a generalized minimal residual-based Krylov method to determine said multidimensional charge variation function.

21. (currently amended) The system as recited in Claim 15 wherein said representative conductive geometry is represented in an octtree.